

Appln No. 09/636,000

Amdt date June 1, 2004

Reply to Office action of March 1, 2004

REMARKS/ARGUMENTS

In the final Action dated March 1, 2004, claims 1 - 5, 7, 11 and 12 were rejected under 35 U.S.C. 103(a). Claims 8 - 10 were allowed. Claim 6 was indicated as being allowable if rewritten to include all of the limitations of the base claim and any intervening claims.

By this Amendment and the accompanying Request for Continued Examination, Applicant is amending claims 1, 2, 5, 6, 11 and 12 and adding claims 13 - 21. Claims 1 - 21 are now presented for reconsideration.

Amendments to the Specification

Applicant has amended the Specification as set forth above to correct a typographical error. Applicant submits that no new matter has been added by this amendment.

Amendments to the Claims

Applicant has amended claim 6 to independent form. Applicant submits that claim 6 is not narrower in scope as compared to the scope of claim 6 as originally filed and subsequently deemed allowable.

Claims 13 - 16 depend on claim 6. Applicant respectfully submits that claims 6 and 13 - 16 are now in condition for allowance.

Applicant has amended claims 2, 5, 6 and 12 to correct typographical errors or maintain consistency with other claims. Applicant submits that the scope of these claims has not been narrowed from their intended original scope.

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New claims 17 - 21 depend on allowed claim 8. Applicant respectfully submits that these claims are in condition for allowance.

Applicant's Response to the Rejections Under 35 U.S.C. § 103

Of the rejected claims, claims 1 and 11 are independent. Claim 1 was rejected as being unpatentable over Cooper, U.S. Patent No. 5,502,735, in view of Beat, U.S. Patent No. 5,687,352. Claim 11 was rejected as being unpatentable over Jekal, U.S. Patent No. 6,035,428, in view of Beat, U.S. Patent No. 5,687,352.

Claims 1 and 11 now recite, in part "computing branch metrics for the trellis by either setting each branch metric equal to a coefficient which models an autocorrelation of an impulse response of a channel or by adding or subtracting only one coefficient which models an autocorrelation of an impulse response of a channel to or from a prior value of each branch metric." These aspects of claims 1 and 11 are not taught or suggested by the cited references.

Cooper discloses a maximum likelihood sequence detector where branch metrics are determined by the formula listed in Equation 2 at column 5, line 55. Equation 2 does not teach or suggest the aspects of claims 1 and 11 quoted above.

Beat merely describes a control circuit that incorporates a Gray code. Beat does not teach or suggest the aspects of claims 1 and 11 quoted above.

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Similarly, Jekal does not teach or suggest these aspects of claim 1. Accordingly, even if there were motivation in the art to combine Beat with either Cooper or Jekal (which there is none) the combination does not teach or suggest the inventions of claims 1 and 11. Consequently, Applicant respectfully submits that claims 1 and 11 are not obvious in view of the cited references.

Claims 2 - 5 and 7 that depend on claim 1 and claim 12 that depends on claim 11 also are patentable over the cited references for the reasons set forth above. In addition, these dependent claims are patentable over the cited references for the additional limitations that the dependent claims contain.

For example, claim 5 recites, in part, "initial state register paired with initial state mask register wherein a pair of registers define a set of valid initial states" and "means for initialization of trellis state metrics such that the MLSE Viterbi algorithm selection of the maximum likelihood path in the trellis is confined only to paths having a valid initial state."

The Examiner contends these aspects of claim 5 are taught by Hladik et al., U.S. Patent No. 5,721,746, at column 7, lines 56 - 63 as follows:

In the circular MAP decoder, note that α_0 is initialized as $\alpha_0 = (1/M, \dots, 1/M)$ since the initial encoder state is unknown. It is also assumed that all M initial states are equally likely. (If this is not true, the initial values $\alpha_0(m)$ can be assigned according to any a priori knowledge regarding the

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probabilities of the initial starting state. Thus, the decoder described herein is also advantageously applicable to partial tail-biting trellis codes.)

Applicant respectfully disagrees. Hladik et al. says nothing regarding an "initial state mask" or "initialization of trellis state metrics" such that the MLSE Viterbi algorithm selection of the maximum likelihood path in the trellis is confined only to paths having a valid initial state." Accordingly, Applicant respectfully submits that claim 5 is not obvious in view of the cited references.

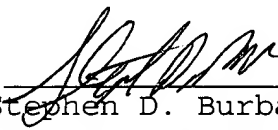
SUMMARY

In view of the above amendments and remarks it is submitted that the claims are patentably distinct over the cited references and that all the rejections to the claims have been overcome. Reconsideration and reexamination of the above Application is requested.

Respectfully submitted,

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